

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Canceled).

2. (Currently Amended): ~~An image recording apparatus as recited in claim 1, An image recording apparatus comprising:~~

~~a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;~~

~~detection means for detecting said recorded test pattern;~~

~~a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and~~

~~a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, wherein said test pattern includes a first check pattern, said first check pattern comprises plural first check lines recorded by driving the same recording device at predetermined time intervals on the basis of predetermined drive signals, while said recording material is relatively moved to said recording head, and wherein said test pattern analyzer measures distance between said first check lines to determine deviation in said relative movement or said relative speed.~~

3. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, wherein said test pattern includes a second check pattern, said second check pattern comprises plural second check lines recorded by driving the same said recording device for predetermined time on the basis of predetermined drive signals, while said recording material is relatively moved to said recording head,

and wherein said test pattern analyzer measures the length of said second check line to determine deviation in said relative movement or said relative speed.

4. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, wherein said test pattern includes at least one of a faulty recording device check pattern, a calibration pattern, and a solid fill check pattern.

5. (Currently Amended): ~~An image recording apparatus as recited in claim 1, An image recording apparatus comprising:~~

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, wherein said test pattern is recorded in a margin provided between said images recorded continuously.

6. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, wherein said test pattern is recorded in a margin provided between said image and a side edge of said recording material.

7. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, further comprising:

a head carriage for carrying said recording head in a second direction orthogonal to said first direction; and

a recording material feeding device for feeding said recording material in said first direction, said image being serially recorded by repeating to carry said carriage and to feed said recording material by use of said recording material feeding device.

8. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, further comprising:

a recording material feeding device for feeding said recording material in a second direction orthogonal to said first direction, said image being linearly recorded by repeating or carrying out at the same time to record said image in said first direction and to carry said recording material in said second direction.

9. (Original): An image recording apparatus as recited in claim 8, wherein said recording head moves in said first direction for a pixel-offset.

10. (Original): An image recording apparatus as recited in claim 8, wherein said recording head moves in said first direction to record said image, said first check patterns, or said second check patterns in an area between said image and the lateral edge of said recording material.

11. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;
detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, wherein said detection means is a camera for taking an image of said test pattern.

12. (Currently Amended): An image recording apparatus as recited in claim 1, An image recording apparatus comprising:

a recording head for recording an image, said recording head having plural recording elements arranged along a first direction, said recording head moving relatively to a recording material to record a test pattern in a margin of said image;

detection means for detecting said recorded test pattern;

a test pattern analyzer for analyzing signals from said detection means, said test pattern analyzer calculating deviation in relative movement or relative speed of said recording material or said recording head; and

a correction means for correcting said relative movement or said relative speed on the basis of said deviation calculated by said test pattern analyzer, further comprising:

a material cutter for cutting said test pattern recorded in said margin of said image; and
a guide member for guiding said test pattern cut by said material cutter to a waste material box.